

**STATE OF GEORGIA**  
**TIER 2 TMDL IMPLEMENTATION PLAN    REVISION 1**

Segment Name Weaver Creek

Tennessee River Basin

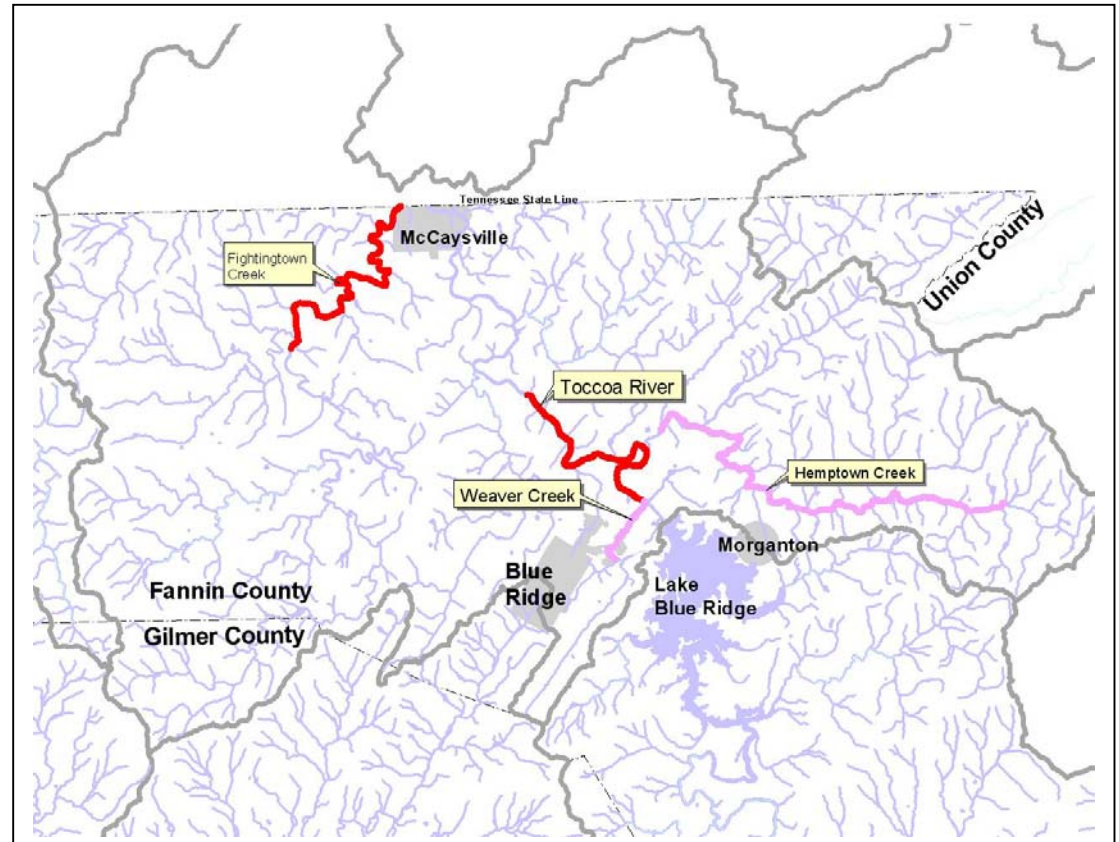
April 28, 2006

Local Watershed Governments Fannin County and  
City of Blue Ridge

**I. INTRODUCTION**

Total Maximum Daily Load (TMDL) Implementation Plans are platforms for evaluating and tracking water quality protection and restoration. These plans have been designed to accommodate continual updates and revisions as new conditions and information warrant. In addition, field verification of watershed characteristics and listing data has been built into the preparation of the plans. The overall goal of the plans is to define a set of actions that will help achieve water quality standards in the state of Georgia.

This implementation plan addresses the general characteristics of the watershed, the sources of pollution, stakeholders and public involvement, and education/outreach activities. In addition, the plan describes regulatory and voluntary practices/control actions (*management measures*) to reduce pollutants, milestone schedules to show the development of the management measures (*measurable milestones*), and a monitoring plan to determine the efficiency of the management measures.



**Table 1. IMPAIRMENTS**

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT	TMDL ID
Weaver Creek	Fannin County	Biota (Sediment)	TEN0000018

## II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10# 0602000302. Include an updated overview of watershed characteristics. Identify new conditions and verify or correct information in the TMDL document using the most current data. Include the size and location of the watershed, political jurisdictions, and physical features that could influence water quality. Describe the source and date of the latest land cover/use for the watershed. Describe and quantify major land uses and activities that could influence water quality. See the “Instructions for Completing the Georgia Total Maximum Daily Load (TMDL) Tier 2 Implementation Plan” for more information on what to include.

The HUC 10# 0602000302 watershed area is found principally in Fannin County, Georgia although small portions of the watershed are located in Tennessee to the north and Gilmer County to the south. The principal streams found in the watershed are the Toccoa River, Fightingtown Creek, Weaver Creek and Hemptown Creek. The total watershed area is 118,956 acres. The terrain is mountainous with significant high peaks and steep slopes with numerous valleys containing streams. The latest land use surveys were conducted in 2004 as part of the process to update the Fannin County and Gilmer County Comprehensive Plans. The data were derived from tax parcel information provided by the County Tax Appraisers, which was augmented by windshield surveys. The following table indicates the land use acreages per each classification in those jurisdictions. The table does not include data from the areas located in Tennessee. These acreages and percentages may differ from the land cover information provided in the TMDL.

**HUC 10 # 0602000302 Land Use Data**

Land Use	Acreage	% of Total Area
Agriculture	5663.5	5%
Commercial	936.6	1%
Industrial	314.1	<1%
Multi-family Residential	51.8	<1%
Single family Residential	26684.4	22%
Parks, Recreation	123.9	<1%
Public, Institutional	534.3	<1%
Right-of-way	3945.9	3%
Transportation, Communication, Utilities	29.5	<1%
Conservation	19460.7	16%
Vacant, undeveloped	61210.8	51%
<b>Total</b>	<b>118,956.2</b>	<b>100%</b>

Source: Fannin County Comprehensive Plan, October, 2004; Gilmer County Comprehensive Plan, October, 2004

The conservation land is located principally in the Chattahoochee National Forest, although the Tennessee Valley Authority also owns land around Lake Blue Ridge, a large man-made reservoir located on the Toccoa River. Other political jurisdictions in the watershed include the cities of Blue Ridge, McCaysville, and Morganton. The watershed area is growing rapidly – with Fannin County’s population increasing by 23 % between 1990 and 2000. Most of the growth is residential and much of that consists of retirement homes and/or second homes. Except for within the cities of Blue Ridge and McCaysville, all residential development is served by individual sewage systems. Considerable commercial development is occurring along State Routes 5 and 515 in the Blue Ridge vicinity. Agricultural activity consists primarily of small cattle and horse farms. There are also a number of poultry producers in the watershed.

The Blue Ridge Adopt-A-Stream program is active within the watershed, and conducts chemical and biota water quality monitoring activities on Weaver Creek and Mineral Springs Creek. There are no agricultural watershed planning activities such as PL-566 Watershed Planning) presently occurring in the watershed. There are no Section 319(h) grant projects currently being conducted in the watershed.

**{Weaver Creek}**

**COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.**

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Weaver Creek	Fannin County	2 miles	Fishing	PS

### III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs

After reviewing the TMDLs written for this stream, complete the following tables with the information found in the TMDLs. List each parameter for which the stream segment is impaired and the water quality standard not met. See the "Instructions for Completing the Georgia Total Maximum Daily Load (TMDL) Tier 2 Implementation Plan" for the water quality standards. Enter the needed reduction from the TMDL. Describe the sources and causes of each impairment identified in the TMDLs.

**Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs**

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Bio(Sediment)	All waters shall be free from material related to municipal, industrial, or other discharges which produce turbidity, color, odor, or other objectionable conditions which interfere with legitimate uses.	Cropland run-off	70%
		Pasture land run-off/stream bank erosion	
		Roads	
		Urban Development	
		Commercial forestry	

### IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the extent and relative contributions from causes or sources of the impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include: 1) involvement of stakeholder group; 2) review of land cover data; 3) field surveys; and 4) other pertinent sources of information consulted.

An initial meeting of the Fannin County Technical Advisory Committee was conducted on August 4, 2005. Members involved represented the Forest Service, County Commission Chairman, County Land Development Office, County Environmental Health Office, farmers, land developers and the Natural Resources Conservation Service. A discussion of land use within the HUC 12 watershed, which contains the impaired segment of Weaver Creek with stakeholders indicated that the watershed is a mostly undeveloped, rural area of the county, although there is increasingly more residential development taking place. The HUC 12 watershed contains a total of 26,495.56 acres. Based upon land use data collection derived from field surveys and the Fannin County tax digest conducted in conjunction with a Comprehensive Plan Update completed in October, 2004, land use within the watershed primarily consists of vacant, undeveloped land (56 % - 14,885 acres), residential land (29 % - 7,788 acres), and agriculture land (4 % - 1,131 acres). Most of the undeveloped property is in woodlands. Other minor land uses consist of commercial (2% - 573 acres), public/institutional (.68 % - 73 acres), right of way (4.9%), transportation, utilities & communication (.10%) and parks and recreation (.30%). There is no mining activity occurring in the watershed. A former mine (W.H. Dodd iron mine) is no longer in existence. Field surveys were also conducted in fall of 2005. (See Appendix C for results of the Visual Survey.)

<b>Weaver Creek HUC 12 Watershed Land Use Characteristics</b>		
<b>Land Use Classification</b>	<b>Area (Acres)</b>	<b>% to Total Area</b>
Agriculture	1131	4.30%
Commercial	573	2.20%
Conservation	142.1	.50%
Industrial	114.7	.40%
Multi-family	45.3	.20%
Parks, Recreation	73.3	.30%
Public, Institutional	179.9	.70%
Right of Way	1306.2	4.90%
Single Family Residential	7788.2	29.3 %
Transportation, Communication, Utilities	16.5	.10%
Vacant, undeveloped	14885.6	56.20%
Water	239.7	.90%
<b>Total</b>	<b>26495.5</b>	<b>100.0%</b>
Source: Fannin County Comprehensive Plan, October, 2004		

Based upon land use data and the visual surveys sources of impairment within the watershed include:

- 1. Upaved Roads.** Erosion from unpaved roadways can be a significant source of sediment. The watershed is receiving a considerable amount of residential development, most of which is served by unpaved roads. A considerable amount of the residential land use is for second home use and seasonal occupation.
- 2. Urban Development.** Approximately 8,788 acres (33%) of the watershed is developed for urban uses. Of this, 700 acres is intensely developed with commercial uses, most of which fronts on State Routes 5 and 515 north of Blue Ridge. New commercial development continues at a rapid pace. The land area along State Routes 5 and 515 is very steep and requires substantial grading to produce developable sites. Much of the development on SR 515 also fronts directly on Weaver Creek. The County and City of Blue Ridge have adopted and administer the latest soil erosion and sediment control programs within their jurisdictions.
- 3. Cropland Run-off.** Although there is little cropland in production within the watershed at the present time, prior to the commercial development that is now occurring along SR 515, an estimated 200 acres of the land was in agricultural cropland, particularly on the east side of SR 515 in an area known as the Weaver Farm. (Existing Land Use Analysis, January, 1973, North Georgia Area Planning and Development Commission). Some amount of the sediment in Weaver Creek is probably legacy sediment from former cropland activities.
- 4. Pasture Land (stream bank erosion).** Current agricultural activity consists primarily of small cattle or horse grazing operations. Extensive grazing can leave areas of ground with little or no vegetative cover as confirmed by visual observations in the watershed. During rainfall

events, soil in pastures is eroded and transported to nearby streams. Visual observations also indicated that many of the cattle and/or horse grazing areas are located adjacent to streams and have direct access to the streams for drinking water resulting in stream bank erosion.

5. **Commercial Forestry.** As indicated in the Total Maximum Daily Load Evaluation Report for the Tennessee River Basin, Ga. EPD. January, 2004, Fannin County had approximately 165,000 acres in timberland in 1997 of which 1.76% (2,640 acres) was harvested (Forest Statistics for Georgia, 1997). Based upon visual observations and confirmation by stakeholder advisory committee members, there is currently very little forest harvesting occurring within the watershed. It is estimated that approximately 500 acres per year are harvested within the HUC 12 watershed.

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Combining information provided in the TMDL document, stakeholder knowledge, existing watershed assessments, and the watershed evaluation conducted for this plan, identify the potential sources or causes most likely to contribute to each identified impairment (parameter) in Table 3. If available information is inadequate to estimate the extent and relative contribution of significant potential sources or causes, recommend appropriate management actions (watershed assessments, monitoring, etc.) to determine the potential sources or causes and relative contributions. In Table 3, list the significant potential sources or causes of each impairment. Estimate the geographic extent of each potential source or cause as percent of the contributing watershed area, percent of stream miles affected, or number per square mile and enter the appropriate rating (from the following table) in the column entitled “Rating (A)”. Estimate the relative contribution of each major source or cause to the pollutant causing the impairment and enter the appropriate rating (from the following table) in the column entitled “Rating (B)”. Calculate a relative impact ratings for each source or cause by multiplying “Rating (A)” by “Rating (B)”. Comments on the source of information used to determine the extent or contribution may be entered in the applicable columns in Table 3.

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The following table provides guidance for rating the estimated extent and portion of the contribution from each potential source and cause.

<b>Estimated Geographic Extent of the Source or Cause in the Contributing Watershed (Percent of area or stream miles)</b>	<b>Estimated Contribution of the Source or Cause to the Pollutant Load Causing the Impairment (Percent of load)</b>	<b>Rating</b>
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	0.5
Scattered or low (approximately 5-20%)	Scattered or low (approximately 5-20%)	1
Medium (approximately 20-50%)	Medium (approximately 20-50%)	3
Widespread or high (approximately 50% or more)	Widespread or high (approximately 50% or more)	5
Unknown	Unknown	UNK

**Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT**

**PARAMETER 1: Biota (Sediment)**

POTENTIAL SOURCES OR CAUSES	ESTIMATED EXTENT OF CONTRIBUTION		ESTIMATED PORTION OF CONTRIBUTION		IMPACT RATING (A X B)
	Comments	Rating (A)	Comments	Rating (B)	
Unpaved Roads	1,306 acres (4.9% of area)	1	Per TMDL, Roads contribute 32% of load.	3	3
Cropland run-off	Agriculture use is 4% of land area – estimated crop acreage (300 acres)	.5	Legacy sediment from previous cropland activity.	3	1.5
Pasture land (stream bank erosion)	Agriculture use is 4% of land area	1	Per TMDL, Pasture land contributes approx. 5% of load	1	1
Urban development	8,788 acres is developed for urban uses; approximately 700 acres is intensely developed.	3	New commercial development taking place at a rapid pace.	3	9
Commercial Forestry	Approximately 500 acres	1	Per TMDL, approx. 5.43 % of load	1	1

## V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.

Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

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The North Georgia Regional Development Center, with input from the County Commission Chairman, Dr. Richard Volrath formed a Technical Advisory Committee in June, 2005. An initial meeting of the Advisory Committee was held on August 4, 2005 at the Fannin County Courthouse, which was well attended by the members, Commission Chairman Richard Volrath, and Mary Gazaway of Georgia EPD. At the meeting, the RDC presented information regarding the Clean Water Act requirements, the list of impaired streams in Fannin County, water quality monitoring data and the TMDLs that had been prepared by Georgia EPD. The RDC led a discussion on possible sources for the pollutant parameters and sought input from the Advisory Committee members concerning land use and other activities, which may be sources. NGRDC explained that it would be conducting a field survey along the streams to verify potential causes. Visual observations along with aerial photography and recent land use data would be utilized to determine the potential causes. Once causes were identified, the RDC will identify recommended measures that could be

utilized to reduce the parameters causing the impairments.

On October 18, 2005, NGRDC in partnership with the CVRDC and the Northwest Georgia Regional Water Resources Partnership conducted a workshop entitled “**Clean Water- the TMDL Link**”, which was attended by the Fannin County Land Development Officer. This workshop provided excellent information on the TMDL process, its requirements, the potential causes for stream impairments, and the various tools that can be utilized to clean up the rivers.

The North Georgia Regional Development Center met with the Stakeholder’s Advisory Committee again on January 10, 2006, which was well attended by Committee members as well as Commission Chairman Richard Volrath and Mary Gazaway of Georgia EPD. The purpose of the meeting was to review the draft TMDL Implementation Plan for all impaired streams in Fannin County. NGRDC discussed the results of the field survey and confirmed the conclusions regarding the sources of impairment. A discussion was held regarding proposed implementation measures. All members concurred with the proposed measures.

List the watershed stakeholder advisory group committee members, described in Project Task #1 of the Scope of Services, in following table.

**Table 4. STAKEHOLDER ADVISORY GROUP MEMBERS**

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Tammy Williams, Fannin County Land Development Officer	400 West Main Street	Blue Ridge	GA	30513	706-632-8361	trwilliams@tds.net
Dr. Richard Volrath, Fannin Co. Commission	400 West Main Street, Suite 100	Blue Ridge	Ga	30513	706-632-2203	Dr. Richard Volrath, Fannin Co. Commission
Richard Stanley, Farmer	157 Toccoa Valley Drive	Blue Ridge	GA	30513	706-838-4324	NA
Monica Hoskins, Fannin Co. Environmental Health Officer	P.O. Box 387	Blue Ridge	GA	30513	706-632-3024	mehodskins@gdph.state.ga.us
Joe Webb, landowner	4458 Doublehead Gap Rd.	Blue Ridge	GA	30513	706-838-4575	pjwebb@tds.net
Tina Tilley, U.S. Forest Service	6050 Appalachian Hwy	Blue Ridge	GA	30513	706-632-3031 ext. 102	ttilley@fs.fed.us
Keith Gilmer, Georgia Soil and Water Conservation	700 East 2 <sup>nd</sup> Avenue, Suite J	Rome	GA	30161		keith_gilmer@ga.usda.gov

Commission						
Doug Towery, Natural Resources Conservation Service	185 Wellborn Street, Box 3	Blairsville	GA	30512	706-745-2794 ext. 3	doug.towery@ga.usda.gov
Mayor Robert Green, City of Blue Ridge	3101 East First Street	Blue Ridge	GA	30513	706-632-2091	NA
Larry Golsen, Blue Ridge Adopt-a-Stream		McCaysville	GA	30555	706-492-2099	larrygol@bellsouth.net

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed, as described in Project Task #1 of the Scope of Services.

## VI. MANAGEMENT MEASURES AND ACTIVITIES

Identify and list in Table 5A the significant management measures or activities which have or will be taken in the contributing watershed to address sources or causes of the impairment(s). List significant management measures and activities in Column 1 and responsible organizations in Column 2. Describe the measure or activity in Column 3 and sources of funding or resources in Column 4 (you may wish to adapt the generic language included in the "Standard Language for Management Measures and Activities" to local applications) In Column 5, enter one of the following codes describing the status of the measure or activity: (A) installed and active; (AE) active and **will be** enhanced or expanded; (R) required in the future by law, regulation or permit conditions; (P) currently proposed, but not required; and (N/R) **additional new recommended** or (N/E) **recommended enhanced** management measures and activities. In Column 6 enter the rating of the estimated existing or proposed extent of application of the measure or activity or percentage of individual sources to which the management actions have or will be applied (see the following table). In Column 7 enter a rating of the estimated effectiveness of the management measures and activities (see following table). Effectiveness may be estimated by local experts or derived from tables included in the "Standard Language for Management Measures and Activities".

The following table provides guidance for rating the estimated extent and portion of the contribution for each significant potential source and cause.

Estimated Extent of Application or Percentage of Individual Sources to Which the Mangement Measure or Activity Has or Will be Applied in the Contributing Watershed	Estimated Effectiveness or Percent Removal of Constituent (Percent of load)	Rating
None or negligible (approximately 0-5%)	None or negligible (approximately 0-5%)	.5
Scattered or low (approximately 5-20%)	Low to medium (approximately 5-25%)	1
Medium (approximately 20-50%)	Medium to High (approximately 25-75%)	3
Widespread or high (approximately 50% or more)	High (approximately 75% or more)	5
Unknown	Unknown	UNK



**Table 5A. MANAGEMENT MEASURES AND ACTIVITIES**

**GENERAL MEASURES APPLICABLE TO ALL PARAMETERS**

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCES OF FUNDING & RESOURCES	STATUS CODE	TARGET DATE	EXTENT RATING (Area, #)	EFFECT. RATING (Reduction)
Georgia Water Quality Control Act (OCGA 12-5-20)	Ga. Environmental Protection Division	Makes it unlawful to discharge excessive pollutants (sediments, nutrients, pesticides, animal wastes, etc.) into waters of the State in amounts harmful to public health, safety, or welfare, or to animals, birds, or aquatic life or the physical destruction of stream habitats	Federal, State, Local Governments	A	In place, on-going		

**MEASURES APPLICABLE TO SPECIFIC PARAMETER: Biota (Sediment)**

MEASURE	RESPONSIBILITY	DESCRIPTION	POTENTIALSOURCES OF FUNDING & RESOURCES	STATUS	TARGET DATE	EXTENT RATING	EFFECT. RATING
Erosion and Sediment Control Ordinances	Fannin County and City of Blue Ridge	Continued stringent application of City of Blue Ridge and Fannin County Sediment Control Ordinances to new land disturbing activity.	Local Governments	A	In place, on-going	1	5 (in new developments)
Construction Storm Water Discharge NPDES Permit	Fannin County and City of Blue Ridge	General storm water discharge permit for stand alone construction sites, infrastructure projects, and common developments. Requires implementation of Erosion, Sedimentation and Pollution Control Plan plus monitoring of discharge for compliance with Georgia's in-stream water quality standards.	Local Governments	A	In place, on-going	1	5 (in new developments)
Conservation Reserve Program	Natural Resources Conservation Service	Provides technical assistance, rental payments and cost share funding to address specific natural resource concerns including protection of	Federal Annual rental payment for land taken out of production and 50% cost share for practice	A	6/2006	1	1

		ground and surface waters, soil erosion and wildlife habitat. Eligible practices include tree planting, grassed waterways, wildlife habitat buffers, and shallow water area for wildlife and filter strips.	installation.				
Installation of conservation tillage	Natural Resources Conservation Service & Limestone Valley RC&D	Conservation tillage is estimated to reduce 25-50% reduction in erosion	NRCS Grants/local farmers	A		1	3
Environmental Quality Incentives Program (EQIP)	Natural Resources Conservation Service	Voluntary program that provides technical and cost share assistance for protection of water resources via pasture management, stream bank and water body protection including livestock access limitation.	Federal (Farm Bill 2002) 50% cost share with possible additional incentive payments.	A	6/2006	1	3
Improved unpaved road construction and maintenance practices	Fannin County government		Local Governments	AE	6/2006	1	3
Commercial Forestry Best Management Practices	Land Owners, Ga. Forestry Commission	Program to inform landowners, foresters, timber buyers, loggers site preparation and reforestation contractors and others involved with silvicultural operations about economical effective practices to minimize nonpoint source and thermal pollution. GFC encourages and monitors compliance and conducts a complaint resolution program.	GA. Forestry Commission	A	In place, ongoing	1	5

The purpose of Table 5B is to initiate and guide a “first-cut” evaluation of the capacity of existing, currently proposed, and future required management measures and activities to achieve the load reductions specified in the TMDL (and meet water quality goals) and where needed, identify potential feasible and effective measures and practices which could be encouraged and supported to further reduce pollutant loadings from significant potential sources. Though completely voluntary, such recommendations would provide an effective local guide to effective management actions to achieve local water quality goals, establish priorities for grant or loan programs (Section 319 (h), EQUIP, SRF), establish eligibility for grants for Tier plans and implementation, and identify priorities for local watershed assessments and protection plans.

In Columns 1 and 2 of Table 5B, enter each significant potential source and its' corresponding impact ratings from Table 3. Review Table 5A and list significant management practices and activities applicable to each significant cause or source. Evaluate and compare the estimated extent and relative contribution of each significant cause or source with the extent and effectiveness of the applicable management measures and in conjunction with appropriate local stakeholders or organizations, make a best current determination of whether the existing or proposed management practices would achieve the load reductions needed to achieve the TMDL. Summarize conclusions and rationale in Column 4. If more information is needed to adequately determine the significant sources or causes and their relative contributions so note and recommend management actions needed to adequately identify sources such as monitoring, watershed assessments, or Tier 1 implementation plans in the last column. If the current, proposed and required management measures are judged inadequate to achieve the needed load reductions for significant sources, recommend, in consultation with the advisory groups, additional management activities, programs, and measures which would effectively reduce pollutant loads from the source. List such measures in the final column and list as a recommended activity in the milestones (Table 8).

**TABLE 5B: EVALUATION OF MANAGEMENT MEASURES AND ACTIVITIES APPLIED TO SPECIFIC SOURCES OR CAUSES**

**APPLICABLE TO SPECIFIC PARAMETER: Biota(Sediment) .**

<b>SIGNIFICANT POTENTIAL SOURCE (S) OR CAUSE(S)</b> (From Table 3)	<b>IMPACT RATING</b> (From Table 3)	<b>EXISTING, CURRENTLY PROPOSED, OR REQUIRED MANAGEMENT MEASURES OR ENHANCEMENTS APPLICABLE TO EACH SIGNIFICANT SOURCE</b> (From Table 5A)	<b>EVALUATION: WILL THE ESTIMATED EXTENT OF APPLICATION AND EFFECTIVENESS OF EXISTING, CURRENTLY PROPOSED, AND REQUIRED MANAGEMENT MEASURES BE ADEQUATE TO ACHIEVE THE SOURCE REDUCTION SPECIFIED BY THE TMDL?</b>	<b>IF MANAGEMENT MEASURES ARE ESTIMATED TO BE INSUFFICIENT, RECOMMEND ADDITIONAL MANAGEMENT MEASURES AND ACTIVITIES WHICH COULD EFFECTIVELY REDUCE LOADS FROM SIGNIFICANT SOURCES</b>
Unpaved Roads	3	Erosion and Sediment Control Ordinances (Fannin County)	Effective administration of current rules will minimize erosion from construction	County should move toward requiring more paved roads in new developments
Cropland run-off	1.5	Conservation Reserve Program Installation of conservation tillage (Farmers, NRCS)	If sufficiently funded, and fully utilized by local farmers, these programs could effectively reduce 50 -75% of erosion from these sources	Successful implementation of these programs will require effective technical assistance, education and marketing to farmers.
Pasture Land Run-off/stream bank erosion	1	Conservation Reserve Program (NGCS)	If sufficiently funded, and fully utilized by local farmers, these programs could effectively reduce 50 -75% of erosion from these sources	Successful implementation of these programs will require effective technical assistance, education and marketing to farmers.
Commercial Forestry	1	Continued application of commercial forestry BMPs. (Land owners, Georgia Forestry Commission)	Effective use of BMPs will eliminate erosion of these sources.	None, if BMPs are properly applied.

Urban Development	9	Erosion and Sediment Control Ordinances (Fannin County and City of Blue Ridge) Construction Storm Water Discharge NPDES Permit (Fannin County and City of Blue Ridge)	Effective administration, application and enforcement of current rules will eliminate erosion from construction	None, if stringent enforcement continues.
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## VII. MONITORING PLAN

The purposes of monitoring are to obtain more data to determine the sources of pollution, describe baseline conditions, and evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed (including monitoring required for watershed assessments, or stormwater permits) - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for listing decisions.

**Table 6. MONITORING PLAN**

PARAMETER (S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
pH, Chemicals, Bio-diversity, sediment	Blue Ridge Adopt-a-Stream	Currently underway and to be continued	1/01/2007	On-going as funds allow	Monitor TMDL Implementation impacts.

## VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities, including those described in the Scope of Services that will be conducted to support this plan and the implementation of it.

**Table 7. PLANNED OUTREACH**

RESPONSIBILITY	DESCRIPTION	AUDIENCE	DATE
NGRDC	Distribute copies of the Plan	To all stakeholders & local governments	4/15/2006
NGRDC/County	Prepare and distribute press release describing the plan and where to attain copies	To the local newspapers	4/30/2006
NGRDC/County	Prepare Power Point presentations and present to civic groups & local agencies	Civic Groups and local agencies	5/15/2006

Blue Ridge Adopt-a-Stream	Will conduct general public education activities regarding non-point pollution sources	Local citizens in Fannin County	On going as funds allow
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## IX. MILESTONES/ MEASURES OF PROGRESS OF BMPs AND OUTREACH

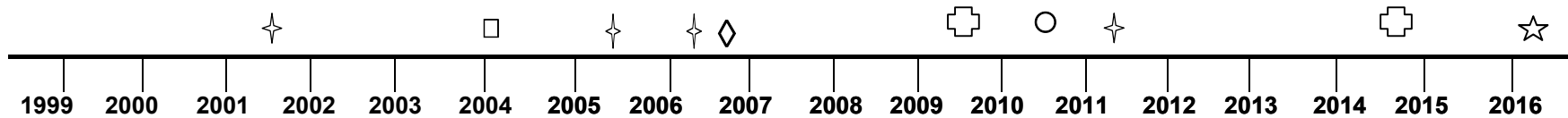
This table will be used to periodically track and report progress of significant management practices and activities identified or recommended in Tables 5A, 5B, and other sections of this plan, including outreach, additional monitoring and assessments, and the enhancement or installation of management measures and activities. Identify and list significant planned or recommended activities and the target date of accomplishment. Provide room to comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

**Table 8. MILESTONES**

MANAGEMENT MEASURE OR ACTIVITY	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Environmental Quality Incentives Program (EQIP)	Natural Resources Conservation Service		X	Program assistance is available. Program outreach needs to be conducted. Assistance provided to farmers as requested.
Conservation Reserve Program	Natural Resources Conservation Service		X	Program assistance is available. Program outreach needs to be conducted. Assistance provided to farmers as requested.
Construction Storm Water Discharge NPDES Permit	Fannin County Government and City of Blue Ridge		X	Permits will be issued as needed.
Erosion and Sediment Control Ordinances	Fannin County Government and City of Blue Ridge		X	Plans approved and permits issued as needed.
Commercial Forest BMP Installation	Landowners/Forest Harvesting Companies		X	Implemented as activity occurs.

## PROJECTED ATTAINMENT DATE

**The projected date to attain and maintain water quality standards in this watershed is 10 years from acceptance of the TMDL Implementation Plan by Georgia EPD.**



- Scheduled EPD Basin Group Monitoring ★
- TMDL Completed □
- Revised TMDL Implementation Plan Accepted ◇
- Plan Status Evaluation Report ⊕
- Plan Update or Revision, if Necessary ○
- Project Attainment for Plans Prepared in 2006 ★

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Date Submitted to EPD:	March 31, 2006	Revision:	

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**APPENDIX A.**  
**STAKEHOLDERS**

List the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Dr. Richard Volrath, Fannin Co. Commission	400 West Main Street, Suite 100	Blue Ridge	GA	30513	706-632-2203	
Steve Morris, Fannin Co. Commission	400 West Main Street, Suite 100	Blue Ridge	GA	30513	706-632-2203	
Randy Collins, Fannin Co. Commission	400 West Main Street, Suite 100	Blue Ridge	GA	30513	706-632-2203	
Kristen Gunia, Fannin's Future Committee	P.O. Box 1916	Blue Ridge	GA	30513	706-4450	cwills@fannindevelopment.com
Doug Cabe, Limestone Valley RC&D	125 Redbud Rd. N.E. Suite 7	Calhoun	GA	30701	706-625-7044	lvrcd@pointlink.net
Jerry Jennings, Northwest Georgia Regional Water Resources Partnership	P.O. Box 1793	Rome	GA	30162	706-295-6485	
Mayor Robert Green, City Blue Ridge	3101 East First Street	Blue Ridge	GA	30513	706-632-2091	NA
Robert Sowers, Blue Ridge City Administrator	3101 East First Street	Blue Ridge	GA	30513	706-632-2091	NA
Larry Golsen, Blue Ridge Adopt-a-Stream		McCaysville	GA	30555	706-492-2099	larrygol@bellsouth.net
Keith Gilmer, Georgia Soil and Water Conservation Commission	700 East 2 <sup>nd</sup> Avenue, Suite J	Rome	GA	30161	706-295-6131	keith_gilmer@ga.usda.gov
Doug Towery, Natural Resources	185 Wellborn Street, Box 3	Blairsville	GA	30512	706-745-2794 ext. 3	doug.towery@ga.usda.gov

Conservation Service						
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**APPENDIX B.**

**UPDATES TO THIS PLAN**

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

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**APPENDIX C**  
**VISUAL FIELD SURVEY**

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**Visual Field Survey**  
**For**  
**Weaver Creek TMDL Segment**  
**(Fannin County)**  
  
**September 2005**

Prepared by the North Georgia Regional Development Center.

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# INTRODUCTION

## 1.1 Location

The Weaver Creek watershed is located in the center of Fannin County. The impaired TMDL segment is located off of 515 near Blue Ridge. The entire Huc 12 watershed lies completely within Fannin County (Figure1).

## 1.2 Watershed Description

The Weaver Creek TMDL segment watershed is comprised of 26,495.5 acres of land inside Fannin County (Figure 2). The TMDL segment is located within Huc 10-0602000302, and it flows north. Based upon NGRDC 2004 existing land use data for Fannin County, mapping of the TMDL segment watershed shows that land cover within the watershed is varied. Roughly 56% of the land is vacant, 29% is classified as residential, and 4% is road right of way. The table below breaks down each land cover and their percentage in the Weaver Creek watershed.

**Table 1. Watershed Land Cover**

<b>Land Cover Classification</b>	<b>Area (Acres)</b>	<b>% of Toal Area</b>
Agriculture	1131	4.30%
Commercial	573	2.20%
Conservation	142.1	0.50%
Industrial	114.7	0.40%
Multi-Family	45.3	0.20%
Parks, Recreation	73.3	0.30%
Public	179.9	0.70%
Right of Way (Roads)	1306.2	4.90%
Residential	7788.2	29.30%
Transportation, Communication, Utilities	16.5	0.10%
Vacant	14885.6	56.20%
water	239.7	0.90%
<b>Total</b>	<b>26495.5</b>	<b>100.00%</b>

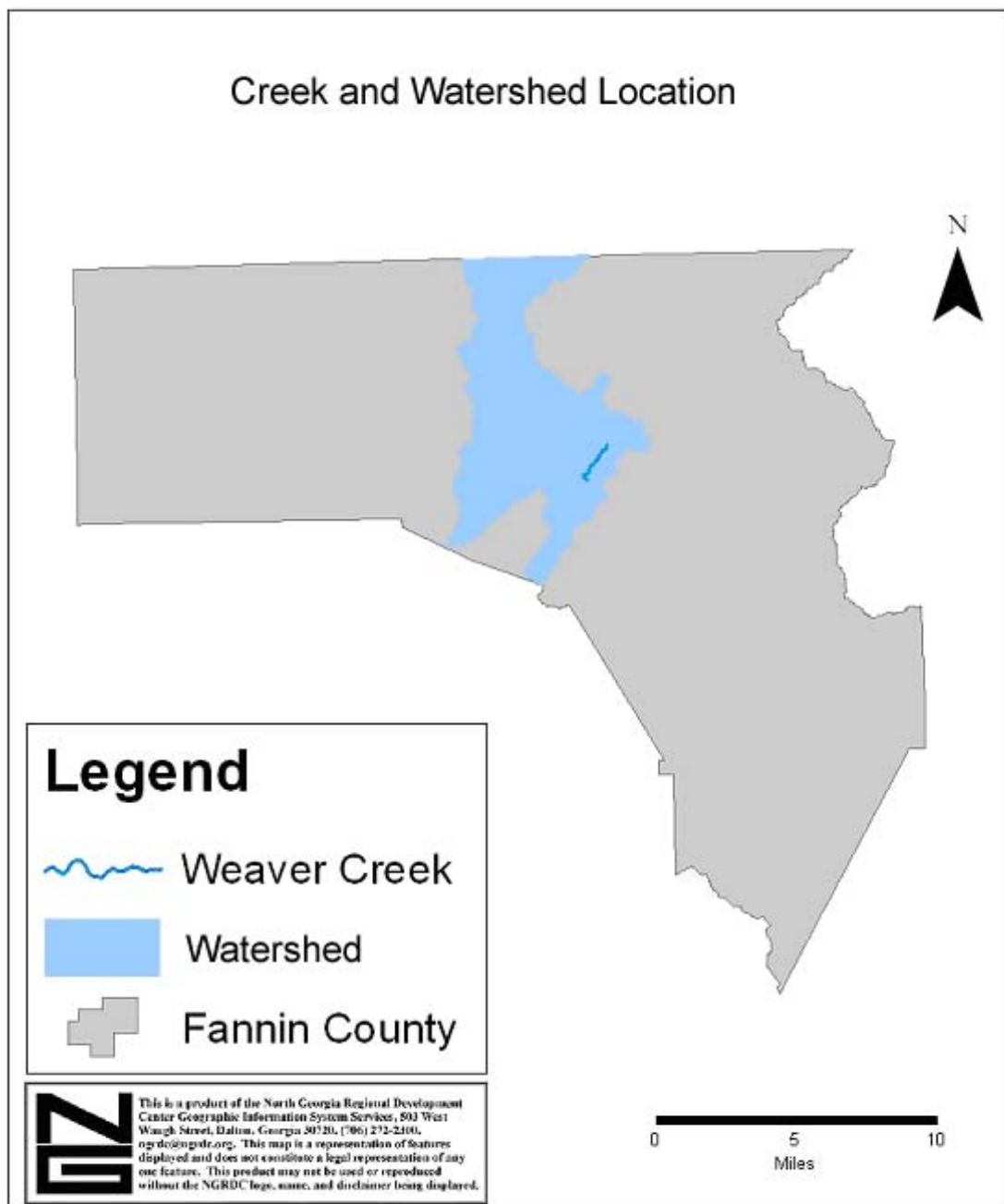


Figure 1. Location of Weaver Creek Watershed

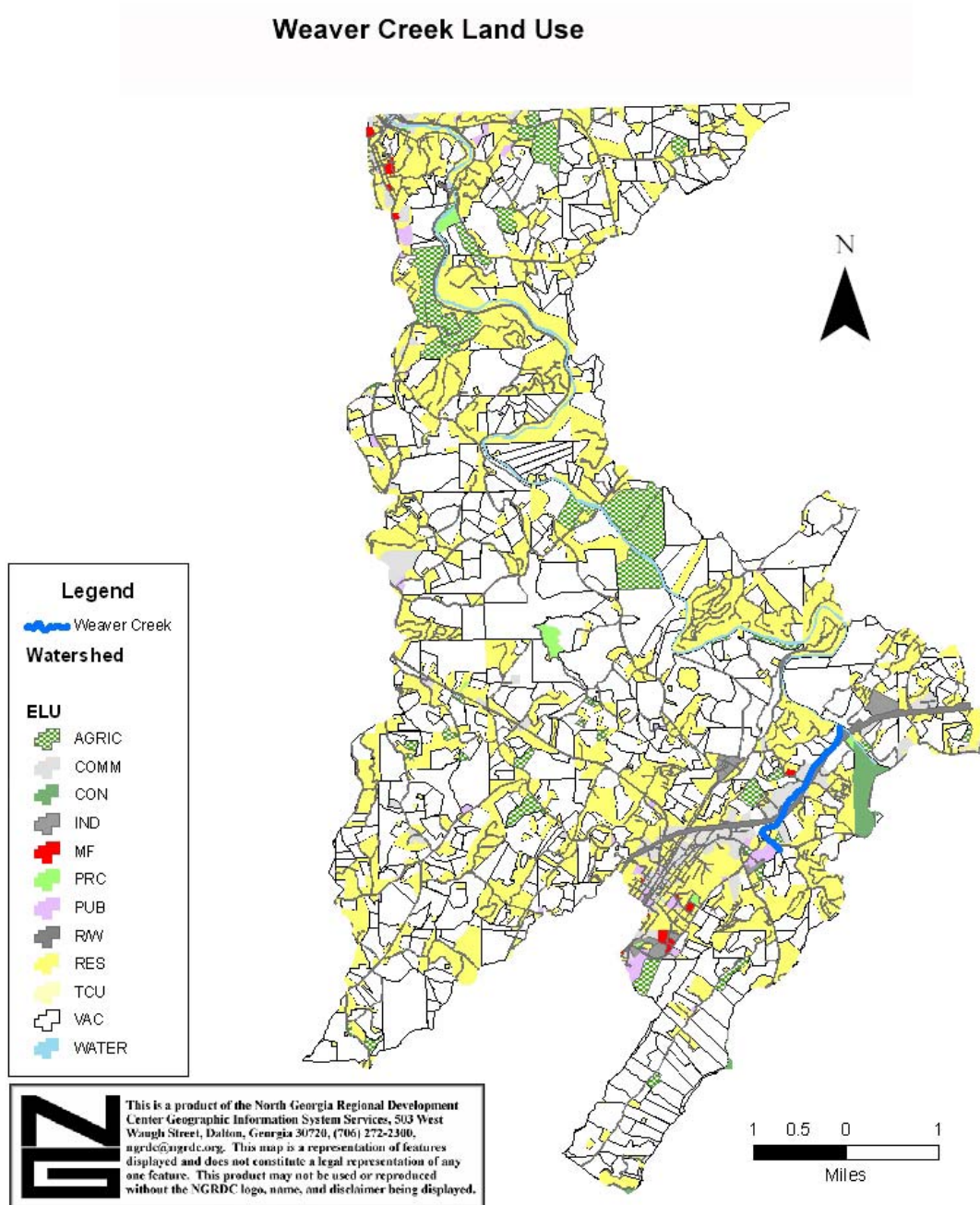


Figure 2. Land Cover for Weaver Creek Watershed.

## **2.0 METHODOLOGY**

The Source Water Assessment Project (SWAP data December 2003) was studied to determine the locations of any known point sources and potential individual sources of pollution in relation to the area of interest. Known potential individual sources of pollution located in the Weaver Creek watershed are shown in Figure 3. Aerial photos were also used as another means to compile information and further evaluate the area.

A windshield survey of the watershed area adjacent to the stream segment was the initial step. There is one road crossing on the Weaver Creek TMDL segment. The road crossing (McClure) was visited during the windshield survey. Segments of the stream were conducive to walking. The road crossing was not the only places in the watershed that were visited however. Many potential problem areas within the TMDL stream segment were visited to confirm land use aerial photography. The purpose of the stream segment visual survey was to identify and observe possible sources of pollution. Observations were documented and captured in photographs of the stream channel and its surroundings.

## **3.0 Field Findings**

### **3.1 General Characteristics**

The field findings discussed here are the results of the visual survey at road crossings as well as visual surveys throughout the entire TMDL stream segments watershed. A pretty thick vegetative buffer bordered the Weaver Creek TMDL segment, but there are also areas with construction right along the shoreline with virtually no vegetative buffer at all. The Creek seemed to be congested with a little debris and did not have a very nice flow in certain areas. General photographs of the stream condition at access points to the segment are shown below in Figures 4-5.

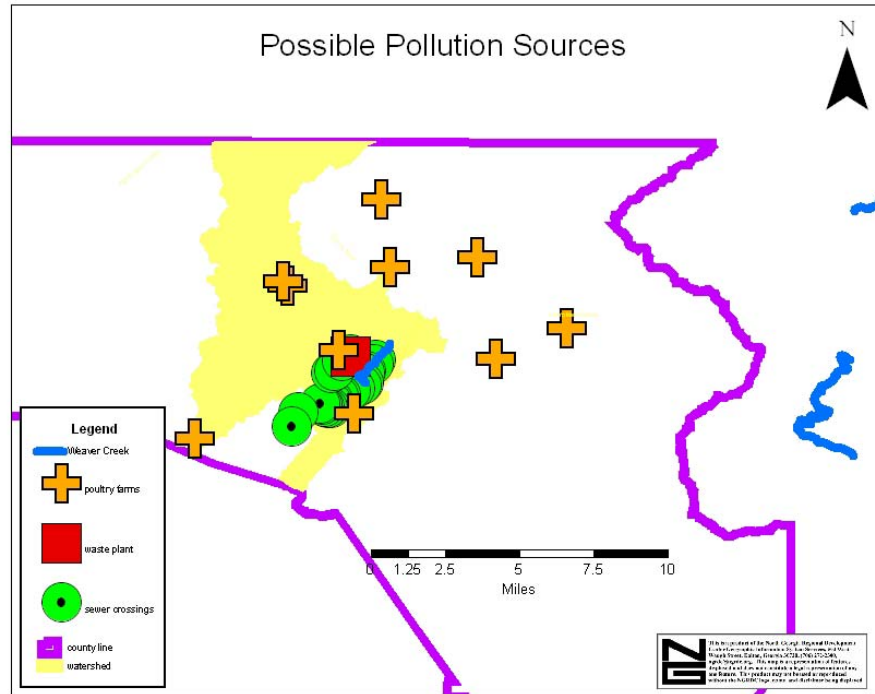


Figure 3. Potential Individual Sources of Pollution Identified in NGRDC's Source Water Assessment Project (December 2003).

### 3.2 Point Sources

### 3.3 Non-Point Sources

Most of the land in the Weaver Creek watershed is Vacant, but the amount of paved surface in the area could be delivering more sediment to reach the stream. Also, unpaved roads may be causing extra sediment run-off. As seen in Figure 4, there is a good deal of construction going on right across HWY 515 from Weaver Creek. This seems to be just one area where runoff could be affecting the creek. Since 5% of the creek's watershed is road right of way, sediment from the surrounding construction is most likely reaching the creek.





Figure 4. Across the street from Weaver Creek.

#### **4.0 Ranks Assigned To Pollution Sources**

There are a variety of potential pollution sources in the Weaver Creek watershed. Urban development construction is taking place at a rapid pace around the stream. Also, there are unpaved roads throughout the whole watershed. Some regular stream bank erosion is taking place as well.

## 5.0 Summary of Findings

The most likely reason for Weaver Creek to be non-supportive is the amount of growth in the surrounding area. Construction seems to be taking place all around the creek. The new growth and development paired with natural stream bank erosion, unpaved roads, and commercial forestry are all contributors to the streams impairment.



Figure 5. Weaver Creek by McClure Road.